

Application No. 10/679,240

REMARKS

Claims 1 to 94 are pending in the application. The Examiner has subjected the claims to a restriction requirement, and claims 1 to 44 and 88 have been withdrawn from consideration. Claims 57 to 61 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing particularly to point out and distinctly to claim the subject matter that Applicants regard as the invention. Claims 75 and 78 have been objected to under 37 C.F.R. §1.75(c) as being of improper dependent form. Claims 45 to 58, 60 to 62, 69 to 80, 84, 85, and 89 to 94 stand rejected under 35 U.S.C. §102(b) as being anticipated by Blair et al. (U.S. Patent 6,458,461). Claims 45 to 53, 69 to 71, 75 to 80, 84, 85, and 89 to 94 stand rejected under 35 U.S.C. §102(b) as being anticipated by Beach et al. (U.S. Patent 6,084,049). Claims 86 and 87 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Blair et al. or Beach et al. Claim 68 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Beach et al. Claims 45 to 58, 60 to 62, 69 to 80, 84 to 87, and 89 to 94 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36 to 87 of Copending Application 10/679,053 in view of Blair et al. Claims 45 to 53, 68 to 71, 75 to 80, 84 to 87, and 89 to 94 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36 to 87 of Copending Application 10/679,053 in view of Beach et al. Claims 63 to 67 and 81 to 83 have been objected to as being dependent upon a rejected base claim, and have been indicated to be allowable if rewritten in independent form. Claim 59 has also been

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indicated to be allowable if rewritten in independent form and rewritten to overcome the rejection under §112.

Applicants have cancelled nonelected claims 1 to 44 and 88 without prejudice, and intend to file a divisional application directed to these claims.

With respect to the rejection of claims 57 to 61 under §112, second paragraph, the Examiner has stated that it is unclear how this spacer group is different from the R_5 group present in the claims, and that in lack of such a distinction this claim is confusing.

Applicants respectfully traverse this ground for rejection. It is possible to have both R_5 monomers and R_7 spacer groups present in the polymer, and even if both R_5 and R_7 happen to be, for example, alkyl, R_5 and R_7 can have different molecular structures. In addition, it is possible to have various combinations of R_5 and R_7 groups wherein both R_5 and R_7 can be various combinations of alkyl, aryl, arylalkyl, and alkylaryl, and wherein either or both can be substituted or unsubstituted, and either may or may not contain heteroatoms therein. Accordingly, these groups have been defined differently from each other. Further, it is possible for the R_5 monomers to be present in a series of monomers in a block portion of a block copolymer, whereas R_7 is a single spacer group separating monomers. Applicants are of the position that those of ordinary skill in the art would clearly understand these distinctions, and that the claims accordingly would not be confusing to one of ordinary skill in the art. Applicants thus respectfully request reconsideration and withdrawal of this ground for rejection.

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Regarding the objection to claims 75 and 78 under 37 C.F.R. §1.75(c), the Examiner has stated that these claims fail to limit further the subject matter of a previous claim in that they contain limitations found in claim 45. Applicants have cancelled claim 75 and amended claim 78, thereby eliminating these grounds for objection.

The Examiner has rejected claims 45 to 58, 60 to 62, 69 to 80, 84, 85, and 89 to 94 under §102(b) as being anticipated by Blair et al. Blair et al. discloses a release agent composition useful in an electrophotographic process. The composition comprises certain heat-stable grafted silicone interpolymers. The interpolymers have a melting point such that it is in the form of a liquid on a hot fuser roll, but solidifies to a waxy solid at room temperature. The compositions were found to reduce transparency streaking in wiper pad systems, and when used in felt roll applications, were found to be equal to silicone oil in transmission ratio and transparency streaking. Accordingly, the release agent compositions were especially efficacious in duplex and transparency printing. The release agent compositions also exhibited superior release performance and facilitated clean release of toner from fuser rolls in an electrophotographic imaging process.

The Examiner has stated that this reference teaches a release agent composition that is used in an electrophotographic process, that the release agent is solid but has a melting point of about 35 to 80°C, that this material is applied to the hot fuser roll (i.e., an intermediate transfer medium) in molten form, and that the roll is then used in a printing process including steps (c) and (d) as claimed, and has referred to the Background of the Invention, which details the same

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indirect or transfer imaging process as claimed. The Examiner has further directed particular attention to portions of the reference disclosing specific materials. The Examiner is of the position that this reference anticipates claims 45 to 58, 60 to 62, 69 to 80, 84, 85, and 89 to 94 of the instant application.

Applicants disagree with this position. Blair et al. is directed to an electrophotographic process wherein a light image is recorded as a latent electrostatic image on a photosensitive member. This latent image is subsequently rendered visible by applying thereto electroscopic marking particles called toner. The toner particles can either be affixed directly to the photosensitive member (in a direct imaging process) or be transferred from the photosensitive member to another support or final recording substrate, such as paper or the like, and affixed to this support (in an indirect imaging process). The toner particles can be affixed or fused to the support by several methods, one of which entails passing the support on which the toner image is placed between the nip formed by two rolls, one of which is heated. The heated roll, also called the fuser roll, contacts the surface of the support on which the toner image is placed. It is highly undesirable for any of the toner to transfer from the support to the surface of the fuser roll. When this transfer occurs, it is called "offset", and can cause poor copy quality because of transfer of the toner particles from the fuser roll to the backup roll and to subsequent copies. (See column 1, lines 11 to 65.) To avoid offset, a release fluid can be applied to the fuser roll. Silicone oils are common release oils used for fuser rolls. (See columns 1 and 2, bridging paragraph.) The Blair et al. invention employs a release fluid

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that is solid at room temperature and can be applied to the hot fuser roll in molten form.

Contrary to the Examiner's position, however, the Blair et al. apparatus and process does not teach or suggest the process recited in the instant claims. More specifically, the Examiner has not pointed to anything in Blair et al. that teaches or suggests a process wherein an intermediate transfer material as recited in the instant claims is supplied (i.e., step (a)) and applied in a molten layer to an intermediate transfer member (i.e., step (b)), followed by (c) applying to the layer of intermediate transfer material a marking material in an imagewise pattern, thereby forming an image on the layer of molten intermediate transfer material, and (d) transferring the marking material from the intermediate transfer member to a final recording substrate.

Blair et al. teaches a process wherein an image is applied to a photosensitive imaging member, followed by transferring that image to a final recording substrate, followed by applying to that final recording substrate a fuser roll upon which a release agent has been applied. The Examiner has pointed to nothing in this reference that teaches or suggests employment of an intermediate transfer member in an imaging process. In addition, the Examiner has pointed to nothing in this reference that teaches or suggests applying in an imagewise pattern a marking material to a layer of intermediate transfer material, thereby forming an image on the layer of molten intermediate transfer material. In fact, Blair et al. teaches away from such a process in that it teaches that any transfer of toner from the support to the fuser roll, in the form of offset, is undesirable, and is in fact the reason that the release agent is

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present: to prevent such a transfer. An important indicium of nonobviousness is "teaching away" from the claimed invention by the prior art. In re Dow Chemical Co., 837 F.2d 469, 473, 5 U.S.P.Q. 2d 1529, 1532 (Fed. Cir. 1988). Further, Blair et al. also teaches that it is undesirable for any toner particles that are transferred onto the fuser roll to be transferred onto additional support papers. Any such toner particles that were so transferred would certainly not be in an imagewise pattern. Accordingly, Applicants are of the position that the present invention as recited in claims 45 to 58, 60 to 62, 69 to 80, 84, 85, and 89 to 94 is patentable with respect to the cited reference.

The Examiner has also rejected claims 86 and 87 under §103 as being unpatentable over Blair et al. and provisionally rejected claims 45 to 58, 60 to 62, 69 to 80, 84 to 87, and 89 to 94 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36 to 87 of Copending Application 10/679,053 in view of Blair et al. Applicants are of the position that these claims are patentable for the same reasons set forth hereinabove with respect to the rejection of claims 45 to 58, 60 to 62, 69 to 80, 84, 85, and 89 to 94 under §102(b) as being anticipated by Blair et al.

The Examiner has rejected claims 45 to 53, 69 to 71, 75 to 80, 84, 85, and 89 to 94 under §102(b) as being anticipated by Beach et al. Beach et al. discloses a release agent composition for use in an electrophotographic process. This composition includes a specifically-defined heat-stable silicone oil-silicone wax random copolymer. The copolymer has a melting point such that it is liquid on the hot fuser roll, but solidifies at room temperature on the printed page. A random

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silicone copolymer, in the form of a paste or pliable caulk, which is useful for sealing leaks in toner cartridges, is also disclosed. Finally, the method for preparing these copolymers is disclosed.

The Examiner has stated that this reference teaches a release agent for electrophotographic processes in which the copolymer is applied to a fusing roll surface in an electrophotographic process, and that the toner image can be transferred to another support member during the printing process, which meets the requirements of steps (c) and (d) found in claim 45. The Examiner has further directed particular attention to portions of the reference disclosing specific materials. The Examiner is of the position that this reference anticipates claims 45 to 53, 69 to 71, 75 to 80, 84, 85, and 89 to 94 of the instant application.

Applicants disagree with this position. Beach et al. is directed to an electrophotographic process wherein a light image is recorded as a latent electrostatic image on a photosensitive member. This latent image is subsequently rendered visible by applying thereto electroscopic marking particles called toner. The toner particles can either be affixed directly to the photosensitive member (in a direct imaging process) or be transferred from the photosensitive member to another support or final recording substrate, such as paper or the like, and affixed to this support (in an indirect imaging process). The toner particles can be affixed or fused to the support by several methods, one of which entails passing the support on which the toner image is placed between the nip formed by two rolls, one of which is heated. The heated roll, also called the fuser roll, contacts the surface of the support

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on which the toner image is placed. It is highly undesirable for any of the toner to transfer from the support to the surface of the fuser roll. When this transfer occurs, it is called "offset", and can cause poor copy quality because of transfer of the toner particles from the fuser roll to the backup roll and to subsequent copies. (See column 1, lines 11 to 64.) To avoid offset, a release fluid can be applied to the fuser roll. Silicone oils are common release oils used for fuser rolls. (See columns 1 and 2, bridging paragraph.) The Beach et al. invention employs a release fluid that is solid at room temperature and can be applied to the hot fuser roll in molten form.

Contrary to the Examiner's position, however, the Beach et al. apparatus and process does not teach or suggest the process recited in the instant claims. More specifically, the Examiner has not pointed to anything in Beach et al. that teaches or suggests a process wherein an intermediate transfer material as recited in the instant claims is supplied (i.e., step (a)) and applied in a molten layer to an intermediate transfer member (i.e., step (b)), followed by (c) applying to the layer of intermediate transfer material a marking material in an imagewise pattern, thereby forming an image on the layer of molten intermediate transfer material, and (d) transferring the marking material from the intermediate transfer member to a final recording substrate.

Beach et al. teaches a process wherein an image is applied to a photosensitive imaging member, followed by transferring that image to a final recording substrate, followed by applying to that final recording substrate a fuser roll upon which a release agent has been applied. The Examiner has pointed to nothing in this reference that

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teaches or suggests employment of an intermediate transfer member in an imaging process. In addition, the Examiner has pointed to nothing in this reference that teaches or suggests applying in an imagewise pattern a marking material to a layer of intermediate transfer material, thereby forming an image on the layer of molten intermediate transfer material. In fact, Beach et al. teaches away from such a process in that it teaches that any transfer of toner from the support to the fuser roll, in the form of offset, is undesirable, and is in fact the reason that the release agent is present: to prevent such a transfer. An important indicium of nonobviousness is "teaching away" from the claimed invention by the prior art. In re Dow Chemical Co., 837 F.2d 469, 473, 5 U.S.P.Q. 2d 1529, 1532 (Fed. Cir. 1988). Further, Beach et al. also teaches that it is undesirable for any toner particles that are transferred onto the fuser roll to be transferred onto additional support papers. Any such toner particles that were so transferred would certainly not be in an imagewise pattern. Accordingly, Applicants are of the position that the present invention as recited in claims 45 to 53, 69 to 71, 75 to 80, 84, 85, and 89 to 94 is patentable with respect to the cited reference.

The Examiner has also rejected claims 68, 86, and 87 under §103 as being unpatentable over Beach et al., and has provisionally rejected claims 45 to 53, 68 to 71, 75 to 80, 84 to 87, and 89 to 94 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 36 to 87 of Copending Application 10/679,053 in view of Beach et al. Applicants are of the position that these claims are patentable for the same reasons set forth hereinabove with respect to the rejection of claims 45 to 53, 69 to 71, 75

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to 80, 84, 85, and 89 to 94 under §102(b) as being anticipated by Beach et al.


Applicants believe that the foregoing amendments and distinctions place the claims in condition for allowance, and accordingly respectfully request reconsideration and withdrawal of all grounds for rejection.

No additional fee is believed to be required for this amendment, however, the undersigned Xerox Corporation attorney (or agent) hereby authorizes the charging of any necessary fees, other than the Issue fee, to Xerox Corporation Deposit Account No. 24-0025.

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In the event the Examiner considers personal contact advantageous to the disposition of this case, she is hereby authorized to call Applicant(s) attorney, Judith L. Byorick, at Telephone Number (585) 423-4564, Rochester, New York.

Respectfully submitted,


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